

Test Verification of Conformity

On the basis of the referenced test report(s), sample(s) of the below product have been found to comply with the harmonized standards and Directives listed on this verification at the time the tests were carried out.

Applicant Name & Address : Altenergy Power System Inc.
No.1, Yatai Road, Jiaxing 314050 P.R. China

Manufacturing site Name & Address : Same as applicant

Product(s) Tested : Grid-connected Microinverter

Ratings and principal characteristics : See Annex

Model(s) : YC500A , YC500I

Brand name : APsystems

Relevant Standard(s) / Specification(s) / Directive(s) : VDE-AR-N 4105: 2011-08
with additional consideration of Draft DIN V VDE V 0124-100


Verification Issuing Office Name & Address : Intertek Testing Services Shanghai
Building No.86, 1198 Qinzhou Road (North), Shanghai 200233, China

Verification Number : 160300551SHA-V8

Report Number(s) : 131201221SHA-001+A1
131201221SHA-002+A1

NOTE 1: This verification is part of the full test report(s) and should be read in conjunction with it.

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Signature
Name: Jonny Jing
Position: Manager
Date: 2016-03-07

Annex to Test Verification of Conformity


This is an Annex to Test Verification of Conformity with Verification/Report Number(s):
 160300551SHA-V8/ 131201221SHA-001+A1+131201221SHA-002+A1. The issuing office is Intertek
 Testing Services Shanghai (Address: Building No.86, 1198 Qinzhou Road (North), Caohejing
 Development Zone, Shanghai 200233, China).

Rating:

Model:	YC500A, YC500I	
Max. input voltage:	55V	
Max. input current:	10.5AX2	
MPPT voltage range:	22-45V	
MPPT voltage range @ full power:	26-45V	
Rated grid voltage:	230V/50Hz	
Max. output current:	2.17A	
Max .continuous output power:	500W	
Power factor:	>0.99	
Class I IP 67		

Annex B.2 Information on Generation Units-YC500A and YC500I

Extract from the test report on the certificate of units <u>131201221SHA-001</u>			
Type of installation:	Grid-connected Micro Inverter	Manufacturer 's data	
Installation manufacturer:	Altenergy Power System Inc.	Type of installation: Grid-connected Micro-inverter	
		Power of normal output in nominal conditions): 500 W	
		Rating voltage: 230 V	
Period of measurement:	From 2014-01-02 to 2014-01-03		
Maximum active Power $P_{E_{max}}$	500.71 W	Maximum reactive Power $S_{E_{max}}$	502.10 VA
Switching actions			The limit of $k_{i_{max}}$ is 1.0
Switching on without specification (to the primary energy carrier)	k_i	0.91	
Most unfavorable case when switching between generator levels	k_i	0.88	
Switching on during nominal conditions (of the primary energy carrier)	k_i	0.87	
Switching off during normal output	k_i	0.74	
Worst value of all switching operations	$k_{i_{max}}$	0.91	
Flicker	Angle of network impedance Ψ_k :	32°	
	Long-term flicker strength P_{LT} :	0,07	


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Annex C.1 Information of YC500A and YC500I

Extract from the test report for the NS protection	131201221SHA-001		
"Determination of electric properties"			
■ NS Protection as Integral NS Protection			
Type of NS protection:	Integral	Other manufacturer instructions	
Software version:	YC500-EU-LC-V1-SE	Assigned to generator unit, type <u>Integral</u>	
Manufacturer:	Note1		
		Integrated coupling switch	
		Type of switching arrangement 1	Note1
		Type of switching arrangement 2	Note1
Period of measurement: 2014-01-02 to 2014-01-03			
Protective function	Control value	Tripping value	Switch-off Time
Protection of voltage reduction $U <$	$0.8 * U_n$		Note1
Protection of voltage increase $U >$	$1.1 * U_n$		Note1
Protection of voltage increase $U >>$	$1.15 * U_n$		Note1
Protection of frequency reduction $f <$	47.5Hz		Note1
Protection of frequency multiplication $f >$	51.5Hz		Note1
Of it: time element of coupling switch	Note1		
The switch-off time (total of delay-time action of NA protection, plus time element of coupling switch) must not exceed 200 ms.			
The review of the entire effectiveness chain "NS protection coupling switch" led to a successful switch-off.			
NOTE1: An external interface protection monitor device and interface protection switch which is evaluated under VDE 4105 will be provided; it will be evaluated in the end use.			

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